

## Bureau of Reclamation Technical Service Center

### Closed Circuit Television (CCTV) Inspection and Evaluation Services

CCTV inspection and evaluation services are available for toe drains, outlet works/spillway conduits, relief wells, pipelines, penstocks, siphons, and gates/valves. CCTV inspection is also used to avoid human entry into confined areas requiring Occupational Safety and Health Administration (OSHA) permit (i.e., gate towers, vaults). CCTV inspection utilizes state-of-the-art robotic crawlers and cameras with real-time imaging for inspection.

CCTV inspection and evaluation services include: inspection, technical assessment of observed conditions, preparation of a Report of Findings, and color copies of inspection videotapes or DVDs. The Report of Findings documents any problem areas observed and provides recommended future actions.

Typical CCTV inspection equipment and capabilities

Equipment	Pipe diameter (inches)	Inspection uses	Maximum tether (feet) <sup>1</sup>
Parallel System (see Figure 1)	15+	For toe drains, relief wells, outlet works/spillway conduits, pipelines, penstocks, siphons, and gates/valves.	1,000
Inline System (see Figure 2)	6 to 14	For toe drains, relief wells, outlet works/spillway conduits, pipelines, penstocks, siphons, and gates/valves.	1,000
Mini video cameras (see Figures 3 and 4) attached to a coiled wire snake or to loading poles	1 and up	For short reaches of toe drains, outlet works/spillway conduits, pipelines, penstocks, siphons, or where obstructions may prevent the use of a camera-crawler. Also, can be used in gate towers and vaults.	200 - 400

Note 1: The type of pipe material, invert conditions, bend angles, and invert slope inclination will affect the tether actually obtainable by the camera-crawler equipment. The maximum tether shown in the table is based on research conducted by the Bureau of Reclamation using camera-crawlers within HDPE pipe with dry conditions, no bends, and no slope inclination. Tether capabilities within other pipe materials such as concrete, clay tile, steel, or PVC should be similar.



Figure 1



Figure 2



Figure 3



Figure 4

For more information on CCTV inspection and evaluation services contact:

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